

## **AMENDMENTS TO THE SPECIFICATION:**

Please replace the paragraph beginning at page 3, line 2, with the following rewritten paragraph:

1           In accordance with the present invention, a method and system for  
2   providing context save and restore using a test scan chain multi-channel  
3   ~~functionality with a telecommunication device comprising a single channel~~ are  
4   provided that substantially eliminate or reduce disadvantages and problems  
5   associated with previously developed systems and methods. In particular, the  
6   present invention provides a scan chain of digital logic components that are  
7   divided into a plurality of sub-chains that are linked in parallel and to a hardware  
8   resource for executing an application, and are linked to a device memory for  
9   storing data for each of a plurality of applications such that the applications may  
10   be executed one after another in a repeating cycle. ~~Thus, each application has~~  
11   ~~exclusive use of the channel while being executed.~~ The device is operable to be  
12   placed in a test mode for testing, a functional mode for executing applications,  
13   and a switch mode for switching between applications. Each digital logic  
14   component is operable to receive test data over a test line and a test clock signal  
15   while the device is in the test mode, to receive functional data over a functional  
16   line and a functional clock signal while the device is in the functional mode, and  
17   to receive functional data over the functional line and the functional clock signal  
18   while the device is in the switch mode. In this way, an existing test scan chain  
19   may be adapted to provide a hardware efficient context save and restore  
20   function.

Please replace the paragraph beginning at page 3, line 13, with the following rewritten paragraph:

1           In one embodiment of the present invention, a method for providing  
2   context save and restore using a test scan chain multi-channel functionality with

3 ~~a telecommunication device comprising a single channel~~ is provided. The  
4 method includes dividing a scan chain of digital logic components into a plurality  
5 of sub-chains. A first data set is provided in the sub-chains. The sub-chains are  
6 linked in parallel and to a hardware resource for executing an application. The  
7 sub-chains are also linked to a device memory. A first application is executed to  
8 update the first data set in the sub-chains. The first application is operable to  
9 use the channel. The updated first data set is stored in the device memory. A  
10 second data set is restored from the device memory to the sub-chains. A  
11 second application is executed to update the second data set in the sub-chains.  
12 The second application is operable to use the hardware resource ~~channel~~.

Please replace the paragraph beginning at page 3, line 28, with the following rewritten paragraph:

1 In another embodiment of the present invention, a processing  
2 ~~telecommunication device comprising a single channel~~ is provided that includes  
3 a scan chain, a device memory and a state machine. The scan chain comprises  
4 a plurality of digital logic components. The device memory is operable to store a  
5 data set for each of a plurality of applications. The state machine is operable to  
6 divide the scan chain into a plurality of sub-chains, to provide a first data set in  
7 the sub-chains, to link the sub-chains in parallel and to a hardware resource for  
8 executing an application, to link the sub-chains to the device memory, to execute  
9 a first application to update the first data set in the sub-chains, to shift the  
10 updated first data set into the device memory for storage, to shift a second data  
11 set from the device memory into the sub-chains, and to execute a second  
12 application to update the second data set in the sub-chains. The first application  
13 is operable to use the channel, and the second application is operable to use the  
14 hardware resource ~~channel~~.

Please replace the paragraph beginning at page 4, line 16, with the following rewritten paragraph:

1           Technical advantages of the present invention include providing an  
2 improved system for providing context save and restore using a test scan chain  
3 ~~multi-channel functionality with a telecommunication device comprising a single~~  
4 ~~channel~~. In a particular embodiment, a state machine stores data for each of a  
5 plurality of applications in a device memory. The applications are executed one  
6 at a time in a hardware resource to which the test scan chain is linked. After  
7 each application is executed, the data for that application is stored in the  
8 memory and data for another application is restored from the memory. As a  
9 result, the applications may be executed in a repeating cycle with each  
10 application having exclusive use of the hardware resource ~~channel~~ during  
11 execution. ~~Accordingly, multi-channel functionality is provided with a single~~  
12 ~~channel~~.